

In the Claims:

1 – 30 Cancelled.

31. (New) A distal protection device, comprising:

a filtering portion operable between a filtering state and a compact state;

an elongate element having a proximal end, a distal end and a longitudinal outer surface, the distal end attached to the filtering portion; and

a controller portion operably connected to the filtering portion and at least partially disposed within the outer surface of the elongate element, the controller portion moving the filtering portion between the filtering state and the compact state.

32. (New) The device of claim 31,

wherein the filtering portion comprises an inflatable balloon that has an inflated state and a deflated state,

wherein moving towards the inflated state causes the filtering portion to move towards the filtering state and moving towards the deflated state causes the filtering portion to move towards the compact state, and

wherein the controller portion comprises a lumen disposed in the elongate element fluidly connected to the inflatable balloon.

33. (New) The device of claim 32, wherein the filtering portion comprises a material that is biased to cause the filtering portion to be in the compact state.

34. (New) The device of claim 33, wherein the material is a shape memory alloy.

35. (New) The device of claim 32,
wherein the balloon comprises a radially expanding helical portion when in the expanded state, and
wherein the filtering portion comprises a filtering material attached to the balloon, the filtering material forming a filtering wall, a closed end and an open end.

36. (New) The device of claim 35 wherein the balloon comprises a helical portion having a uniform distance from a central longitudinal axis when in the expanded state.

37. (New) The device of claim 32 wherein the inflatable balloon comprises an inflatable arm, the arm having a first end, a second end and a lumen therebetween, wherein each arm is attached to a filtering material, the filtering material forming a filtering wall, a closed end and an open end, the arms extending in an outward and proximal direction when the inflatable balloon is inflated.

38. (New) The device of claim 37 wherein the inflatable balloon comprises three inflatable arms.

39. (New) The device of claim 37 wherein the inflatable balloon comprises four inflatable arms.

40. (New) The device of claim 37 wherein the inflatable balloon further comprises an inflatable collar disposed between the inflatable arms and the lumen in the controller portion.

41. (New) The device of claim 37 wherein the inflatable arm comprises a cylindrical portion.

42. (New) The device of claim 37 wherein the inflatable arm comprises a concave surface facing the elongate element.

43. (New) The device of claim 37 wherein the inflatable arm comprises a first end and a second end, wherein when the inflatable arm is in the inflated state, the first end is more proximate the elongate member than the second end, and the second end has an arcuate cross section.

44. (New) The device of claim 41 wherein the filtering portion comprises a plurality of struts, each strut having a proximal end connected to the elongate member, a distal end connected to a distal region, and a medial region, and a filter mesh having a first end and a second end disposed over at least a distal portion of the plurality of struts, and

wherein the elongate member has a lumen disposed between the proximal end and the distal end.

45. (New) The device of claim 44 wherein the controller portion comprises a mandrel connected at a distal end of the mandrel to the distal region of the plurality of struts.

46. (New) The device of claim 45 wherein the urging of the mandrel proximal relative to the elongate member causes the medial region of each of the plurality of struts to move in a radially outward direction and thereby expand the first end of the filter mesh.

47. (New) The device of claim 45 wherein a proximal end of the mandrel is connected to a hydraulic or pneumatic actuator.

48. (New) The device of claim 31 wherein the filtering portion comprises a mesh attached to the distal end of the elongate member, the mesh having a proximal looser mesh portion and a distal tighter mesh portion.

49. (New) The device of claim 48 wherein the filtering portion operates to the filtering state when the distal end of the mesh is moved proximally and to the compact state when the distal end of the mesh is moved distally.

50. (New) The device of claim 49 wherein urging the distal end proximal relative to the elongate member radially expands a proximal region of the distal tighter mesh portion.

51. (New) The device of claim 31 wherein
the filtering portion comprises a plurality of struts connected to the elongate member and a mesh disposed thereon, each strut having a distal end,
the controller portion comprises a mandrel connected to the distal end of the plurality of struts,
wherein moving the mandrel proximal relative to the elongate member moves the filtering portion to the filtering state and moving the mandrel distal relative to the elongate member moves the filtering portion to the compact state.

52. (New) The device of claim 51, further comprising a plurality of flexible expansion structures connected to and disposed between the plurality of struts and the elongate member.

53. (New) The device of claim 51 wherein when the filtering portion is in the compact state a portion of the mesh is disposed against the elongate member.

54. (New) The device of claim 31,
wherein the filtering portion comprises a filter mesh biased to the expanded state and when in the expanded state having an open end, and

wherein the controller portion comprises a flexible wire operably connected to the open end such that when a proximal portion of the wire is urged proximal relative the elongate member, the filtering portion is urged to its compact state.

55. (New) The device of claim 54 wherein the filter mesh comprises a plurality of loops proximate the open end and wherein the wire is threaded through one or more of the plurality of loops.

56. (New) The device of claim 54 wherein the controller portion comprises a control lumen having a distal opening proximal the open end of the mesh and wherein the wire is disposed therein.

57. (New) The device of claim 31,
wherein the filtering portion is further operable to a retaining state,
the filtering portion comprising a filtering mesh having a distal end, a proximal end, and a medial region, the filtering mesh attached to the elongate member at the proximal end and to the controller portion at the distal end, the filtering mesh moving into the filtering state and forming a filtering lobe as the distal end of the filtering mesh is urged proximal relative to the elongate member, and the filtering lobe compacting into the retaining state as the distal end of the filtering mesh is urged more proximal relative to the elongate member.